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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-10 (cancelled)

Claim 11 (new): A method for controlling evaporators in refrigeration plants, wherein control is carried out after the evaporation process has begun, with the evaporation pressure at the inlet of the evaporator normally being used as one control variable and the refrigerant supercooling temperature upstream of the injection valve being used as second control variable, so that in this way the start of evaporation is defined and controlled.

Claim 12 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein an internal heat exchanger IHE is connected downstream of the evaporator.

Claim 13 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein a further measured value, the suction vapor temperature at the compressor inlet, optimizes this control and ensures protection for the compressor.

Claim 14 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein further measured values, such as the hot-gas temperature at the exit of the compressor, the compressor oil temperature, the suction pressure at the compressor and/or the high pressure upstream of the injection valve or downstream of the compressor can be used to optimize or protect the compressor.

Claim 15 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein control is effected, optimally for the particular type of evaporator, near to the left-hand limit curve of the lg p, h diagram for refrigerant.

Claim 16 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein this type of control causes the evaporator to be flooded and the degree of flooding to be determined, and at the same time causes the refrigerant suction vapor temperature and refrigerant liquid temperature to be monitored and controlled.

Claim 17 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein the measured value for limiting the suction vapor temperature upstream of the compressor over-controls the evaporation control and keeps the suction vapor temperature constant at an optimum and/or maximum value as a function of the compressor.

Claim 18 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein the optimum of the process is always in favor of the evaporator and not the IHE to achieve maximum utilization of the enthalpy in the evaporator between the left-hand and right-hand limit curves of the lg p, h diagram for refrigerant and, depending on the temperature level of the IHE, with a superheating component in the evaporator.

Claim 19 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein one evaporator can be connected to one IHE, or a plurality of evaporators can be connected to one IHE or a plurality of evaporators can be connected to a plurality of IHEs, or any type of combinations thereof, to form a refrigeration system.

Claim 20 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein, depending on the combination of evaporators, IHEs, injection valves and compressors, each injection valve and the system can be controlled with reduced measured values.

Claim 21 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein the measured value for limiting the corresponding alternative measured valve over-controls the evaporation control and keeps the suction vapor temperature constant at an optimum and/or maximum value as a function of the compressor.

Claim 22 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 20, wherein one measured value is controlled for each expansion valve.

Claim 23 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 20, wherein one measured value is controlled for each compressor.

Claim 24 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 20, wherein one measured value is controlled for a plurality of expansion valves.

Claim 25 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 20, wherein one measured value is controlled for a plurality of compressors.

Claim 26 (new): The method for controlling evaporators in refrigeration plants as claimed in claim 11, wherein depending on the combination of evaporators, IHEs, injection valves and compressors, each injection valve and the system can be controlled with a combination of one or more measured values.